

sufficient to prevent the limiter 56 from being easily or unintentionally inserted into a rectum or vagina. For practical purposes, the limiter 56 is configured to prevent any insertion past the limiter 56. The limiter 56 is located relative to the tip 38 to permit about 2.5 to 3 inches of insertion of the tip 38, as previously discussed for colonic irrigation. The limiter 56 may be oriented to either extend toward, or face the rear or front end of the toilet. In the illustrated embodiments, the limiter 56 is placed to face the rear end of the toilet. In a further embodiment (not shown), the irrigation assembly 24 may comprise a pair of limiters 56 facing opposite directions. Further, as shown in FIGS. 4B, 4C, 4D and 4F, fluid flowing in direction to the irrigation tip 38 changes its flow direction at least once by at least 90°.

The illustrated limiters 56a-56f provide further flexibility to allow the tip 38 to gently and resiliently contact the body. The limiters 56b-56d and 56f allow the stiffness and configuration of connecting portion 50 to contribute to this increased flexibility and resilience. This reduces the force of any contact with the body to reduce the possibility of injury and to reduce the severity of any tissue injury resulting from contact with the tip 38 for prolonged time periods.

Referring to FIG. 5, a further embodiment of a toilet attachment in accordance with the present invention is shown. An L shaped connecting base tube 70 may be stored on a flat base plate 60 when not in use and held in place by one or more resilient brackets 62, 64, 66. As described above, in use, the base plate 60 is placed over a toilet bowl, between the toilet bowl and a toilet seat toward the rear of the bowl. The base tube 70 is removed from the brackets 62, 64, 66 and the short end of the L tube 70 inserted through a hole 68 in plate 60 to hold it steady and correctly orientate that end of the tube 70. The longer end of the L tube 70 may be held in place by the brackets 62, 64, 66 which are generally C shaped with one portion extending over the tube 70. A connecting end 72 of the tubular rectal assembly 24 is inserted inside one end of the tube 70, with at least one of the tubes 70, 72 being sufficiently resilient to provide a water tight connection. Opposite the end 72 of the rectal assembly 24 is the rectal tip 38 which may be inserted into the rectum or vagina for use, as noted above. The illustrated rectal assembly 24 has a limiter 56c having the shape of a "C" (see FIG. 4C), although any of the previously described limiters 56 could be used.

The described embodiments of toilet attachments including the rectal tip may be used for enema, douche or colonic irrigation. Referring to FIG. 3, a user may advantageously lubricate the rectal tip 38 and anus, hold the rectal assembly 24 and slowly and gently insert the rectal tip 38 into the rectum as the user lowers himself or herself onto the seat 12. The rectal tip 38 should not be inserted further than the limiter (see FIGS. 4A-4F) allows, which is typically about three inches maximum. When the rectal tip 38 is properly inserted, the user opens the clamp 22 on the fluid line 32 and proceeds with the colonic irrigation.

In a further embodiment, by placing the toilet attachment in the described manner onto a conventional toilet, the toilet can be used as a bidet. In this case, the irrigation assembly may be altered to have a shorter connecting portion 50 (FIG. 2B) to position the tip 38 at an appropriate location below the rim of the seat 12.

The toilet attachment has a simple construction and elegant design that make this toilet attachment easy and safe to use, easy to carry and store, and very clean. The irrigation assembly can be made inexpensively thereby lowering the cost of the whole toilet attachment. The disposable irrigation

assembly can be easily replaced to maintain hygienic conditions particularly if several persons use the same base plate. Since the irrigation assembly, the tube 32 (FIG. 2B) and the fluid line 20 can be completely removed from the base plate 28, the base plate 28 can be cleaned easily. This also allows thorough cleaning of the tube 32 and eventually of the portion of the fluid line 20 that extends into the bowl 10.

Although an exemplary embodiment of the invention has been disclosed for purposes of illustration, it will be understood that various changes, modifications and substitutions be incorporated in such embodiment without departing from the spirit of the invention as defined by the claims which follow.

What is claimed is:

1. A toilet attachment to be positioned between a toilet seat and a toilet bowl and to be connected to a fluid line, comprising:

a tubular irrigation assembly comprising a U-shaped tube having an irrigation tip defining an outlet for fluid received from the fluid line at a first end, a U-shaped portion having an inlet for receiving fluid from the fluid line at an opposite second end thereof, and a limiter disposed between said irrigation tip and said U-shaped portion at a preset distance from the outlet to limit the distance the tip is inserted into a body cavity during use and for increasing the flexibility of the insertion tip, the limiter being located along a plane passing through a longitudinal axis of the irrigation assembly; and

a base plate, said base plate having an upper and lower surface, a rear end and a front end, and first and second ports in the base plate, one to receive and secure the fluid line and one to receive and secure the irrigation assembly to provide fluid for passage through the irrigation assembly, at least one of said ports being located at said front end, said base plate having at least a portion sized to fit between the toilet seat and the toilet bowl when the seat rests against the bowl.

2. The toilet attachment of claim 1, wherein the base plate further comprises a channel, said channel extending parallel to said upper surface and connecting said ports.

3. The toilet attachment of claim 2, wherein the channel is a groove having a cross section configured to hold a flexible tube and an opening at the upper surface of the base plate smaller than the diameter of the tube but large enough so the tube can be removably inserted into the channel.

4. The toilet attachment of claim 3, wherein the tube is placed in the groove and the groove receives the tube in a press-fit manner.

5. The toilet attachment of claim 3, wherein the groove contains at least one projection located in proximity to one of said ports to secure the fluid line.

6. The toilet attachment of claim 1, wherein the base plate comprises a middle and two outer sections, said middle section being thicker than said two outer sections and depending therefrom to depend into said bowl during use and about a portion of said bowl.

7. The toilet attachment of claim 1, wherein the limiter has a generally double "L" shape.

8. The toilet attachment of claim 1, wherein the limiter has a generally lateral "U", shape.

9. The toilet attachment of claim 1, wherein the limiter comprises a loop, said loop having a plane that is parallel to the tube.

10. The toilet attachment of claim 1, wherein the limiter has a generally lateral "S" shape.

11. A toilet attachment to be positioned between a toilet seat and a toilet bowl and to be connected to a fluid line, comprising:

a U-shaped tubular irrigation assembly, said irrigation assembly comprising an irrigation tip having a longitudinal axis and an outlet in fluid communication with the fluid line;

insertion limiter means disposed on said assembly for increasing the flexibility of the insertion tip and for preventing insertion of the irrigation tip into a user's body cavity beyond a preset distance, the longitudinal axis of the irrigation tip and said insertion limiter means being coplanar; and

a base plate, said base plate having an upper and lower surface, a rear end and a front end, said base plate receiving and securing the fluid line and the irrigation assembly during use and sized to have at least a portion fit between the seat and bowl as the seat rests against the bowl.

12. A method for applying a toilet attachment for irrigating a body cavity, comprising the steps of:

placing a support between a toilet bowl and a toilet seat to hold a fluid connector, the support comprising a base plate having an upper and lower surface, a rear end and a front end, and first and second ports in the base plate in fluid communication with each other, at least one of said ports being located at said front end, said base plate having at least a portion sized to fit between the toilet seat and the toilet bowl when the seat rests against the bowl;

removably connecting a fluid source to one of the ports;

removably connecting a U-shaped irrigation assembly having an irrigation tip defining an outlet for fluid to the other of the ports so fluid from the source can flow to and out of the outlet of the irrigation tip;

furnishing the irrigation tip with a limiter that changes the direction of the fluid flow by at least 90°, and

locating said limiter a predetermined distance from the outlet of the irrigation tip in order to limit insertion of the tip into a user's body cavity.

13. A toilet attachment for fluid irrigation of a body cavity, the attachment being for use with a toilet having a seat and bowl, comprising:

a tubular body comprising a U-shaped portion having a first end being open so that fluid can be fed through said tubular body to a second end;

an elongated irrigation tip connected to the second end of the tubular body, the tip having a longitudinal axis and holes to dispense fluid during use;

an insertion limiter extending laterally from the irrigating tip, the longitudinal axis of the irrigation tip and said insertion limiter being coplanar, said insertion limiter being disposed on the tubular body between said U-shaped portion and said second end at a preset distance from the irrigation tip to limit insertion of the tip into a user's body, said insertion limiter being adapted to increase the flexibility of the insertion tip; and

a holder configured to removably connect to the tubular body and configured to have at least a portion interposed between the toilet seat and bowl when the seat rests on the bowl during use.

14. The toilet attachment of claim 13, wherein the means has a generally double "L" shape.

15. The toilet attachment of claim 13, wherein the means has a generally lateral "U" shape.

16. The toilet attachment of claim 13, wherein the means comprises a loop formed by the irrigation tip.

17. The toilet attachment of claim 13, wherein the means has a generally "S" shape.

18. A toilet attachment for use with a toilet having a seat and a bowl, to irrigate a body cavity with fluid from a fluid line, comprising:

a tubular irrigation assembly having an inlet configured to be placed in fluid communication with the fluid line and having an outlet, the irrigation assembly having a U-shaped portion and an insertion limiter disposed on said assembly at a preset distance from the outlet to hinder inserting the outlet more than said preset distance into a body cavity, the limiter extending laterally from the irrigating tip, the longitudinal axis of the irrigation tip and said insertion limiter being coplanar, said insertion limiter being adapted to increase the flexibility of the insertion tip; and

a base plate sized to fit between the toilet seat and the toilet bowl when the seat rests against the bowl, the irrigation assembly being secured to the base plate during use of the toilet attachment, the tubular irrigation assembly having at least one bend in the tube intermediate the base plate and the limiter to reduce the stiffness of the tubular irrigation assembly.

19. A toilet attachment as defined in claim 18, wherein the limiter comprises a shaped tube that changes the flow of fluid to the outlet by more than 90°.

20. A toilet attachment to be positioned between a toilet seat and a toilet bowl and to be connected to a fluid line, comprising:

a tubular irrigation assembly, said assembly having an outlet for fluid received from the fluid line, the irrigation assembly having a limiter disposed on said tube at a preset distance from the irrigation tip to prevent a user from inserting the tip more than said preset distance into a body cavity, the limiter comprising a loop having a plane that is parallel to the tube, the irrigation assembly having a U-shaped tube, said tube having a first and second end, said first end comprising an irrigation tip; and

a base plate having an upper and lower surface, a rear end and a front end, and ports to receive and secure the fluid line and the irrigation assembly, at least one of said ports being located at said front end, and said second end of said tube being adapted to connect to one of the port.

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